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Unauthorized Immigration, Fiscal Conservatism, and Partisan Support for the Republicans

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Abstract

Using a unique methodology for identifying unauthorized immigrants across counties in the state of Georgia in the United States, we show that an increase in unauthorized immigrants is associated with natives holding more restrictive views against social welfare provision. We also find a positive relationship between the population share of unauthorized immigrants and the share of votes going to the Republicans in elections. Furthermore, we show that this effect is more pronounced for the presence of unauthorized immigrants than Hispanics; is stronger in counties with higher median household income; and is substantively larger in U.S. Congressional elections.

1 Introduction and Background

Immigration is a divisive and controversial issue in U.S. elections, especially as it relates to unauthorized immigration. The Pew Hispanic Center estimates that roughly 11.2 million unauthorized immigrants live in the United States illegally and comprise approximately 4 percent of the total population (Passel et al., 2014). Even though the unauthorized are without the right to vote, the presence of unauthorized immigrants poses significant challenges to the native, voting population and these challenges may translate into changes in partisanship, helping shift the electoral balance towards one political party at the expense of the other. Some politicians, for example, argue that an increase in populations of unauthorized immigrants can lead to an increase in Republican support, especially among native-born, white voters, who, because of their fears, will align themselves with the party that is strict on immigration policies ¹. While the U.S. is not alone in struggling with immigration issues, the implication of unauthorized immigration has become particularly salient as the population share of unauthorized immigrants has grown by over 200 percent in the U.S. between 1990 and 2012 (Passel et al., 2014), leading the majority of states to adopt policies directly aimed at restricting access of unauthorized immigrants to jobs, education, and social services (NCSL, 2005).

Beyond the political rhetoric, however, there is little empirical evidence connecting the presence of unauthorized immigrants to changes in support for one party over the other. To our knowledge, this paper provides the first empirical investigation of the relationship between the presence of unauthorized immigrants and partisan support in the U.S. over time. In order to help explain the potential impact of the presence of unauthorized immigrants on elections, the channel that we propose depends on linking unauthorized immigrants to native voters' post-tax economic concerns. Following from previous literature, we refer to this threat effect as the "fiscal burden" hypothesis (Card, Dustmann and Preston, 2012; Hainmueller and Hopkins, 2014; Hanson, Scheve and Slaughter, 2007). We use the term "fiscal burden" channel to include the full set of mechanisms through which the presence of unauthorized immigrants changes the willingness of natives to fund fiscal transfers available for use by unauthorized immigrants. Our theoretical expectation is that natives respond negatively to unauthorized immigrants because immigration hurts natives' material (perceived or actual) well-being through their post-tax income. Cognizant of an increase, or perceived increase, in the fiscal burden associated with unauthorized immigrants, when primed to think about these links, natives become more fiscally conservative. Consequently, fiscally conservative native

¹For a sensationalized piece about the possible partisan consequences of amnesty policy, for example, see <http://www.msnbc.com/msnbc/paul-broun-illegal-aliens-immigration-reform>

voters are then more likely to vote for the fiscally conservative party in elections and more likely to vote for the party perceived as “tough on immigration.” In the two party system in the U.S., this means that an increase in unauthorized immigration should be associated with an electoral shift towards the Republicans and away from the Democrats.

So far, empirical evidence is mixed on the link between immigration and natives’ opinions on immigration. On the one hand, scholars have found that those with higher incomes are less likely to support immigration, suggesting that those who pay more in a progressive tax system are indeed more opposed to immigration ([Borjas, 1999](#); [Facchini and Mayda, 2009](#); [Hanson, Scheve and Slaughter, 2007](#); [MaCurdy, Nechyba and Bhattacharya, 1998](#)). [Milner and Tingley \(2013\)](#), for example, find that support for immigration policies depends on fiscal redistribution, where richer people are more likely to support immigration when welfare spending is low and less likely to support immigration when welfare spending is high. Additionally, [Tolbert and Hero \(1996\)](#) find evidence that restricting access to social services is popular in those counties with either a mix of ethnic groups, counties with above average Hispanic population, or counties with a dominant white majority, suggesting a strong association between the population share of unauthorized immigrants and fiscal conservatism.

On the other hand, scholars warn that the relationship between income and restricting immigration may be spurious. Some authors argue that the general decline in fiscal spending across U.S. states coincides with an increase in immigration to the U.S. and is mere correlation and not causation ([Hainmueller and Hopkins, 2014](#); [Hainmueller and Hiscox, 2010](#)). Meanwhile, some find no evidence of fiscal threat effects at all ([Tingley, 2013](#)), whereas others find that cultural concerns trump respondents’ concerns about fiscal redistribution ([Card, Dustmann and Preston, 2012](#)), though both cultural and economic effects matter.

One reason the current literature may contain such mixed results is that uncovering the multitude of potential channels that lead individuals to hold anti-immigrant sentiments is rife with many empirical challenges. One often overlooked concern is that natives may very well respond to unauthorized and authorized immigrants differently and, consequently, that immigration status may matter to natives. In fact, [Dolmas and Huffman \(2004\)](#) conclude (among other things) that, “opposition to immigration may in fact not be disapproval of immigration per se, but instead be opposition to the benefits that immigrants will subsequently receive.” In light of possible difference in natives’ responses to the unauthorized when compared with the authorized, in this paper we focus on the effect of unauthorized immigration on natives’ willingness to fund fiscal transfers available for use by unauthorized immigrants, and on natives’ voting behavior in elections in the presence of unauthorized inflows.

In order to test the relationship between unauthorized immigrants, fiscal conservativeness, and election outcomes, we leverage a new dataset that accounts for the number of unauthorized immigrants at the county level in the U.S. state of Georgia. The U.S. state of Georgia is an excellent place to test the relationship between electoral outcomes and unauthorized immigrants. Firstly, unauthorized immigration is a prominent and state wide political issue. In Georgia, Republican legislators have initiated several laws designed to combat the growing number of unauthorized immigrants in the state. Secondly, there is an estimated 400,000 unauthorized immigrants living in Georgia, ranking Georgia as the 7th largest host-state of unauthorized immigrants (Passel et al., 2014). The large numbers of the unauthorized and their growth since the 1990s makes Georgia a state where immigration policy is a salient election issue. For example, consider HB87, or the "Illegal Immigration Reform and Enforcement Act of 2011." This legislation reforms investigation, verification, enforcement and penalties related to immigrants in the state of Georgia. Further, Senate Bill 160 signed by Georgia's Governor in April 2013, blocks unauthorized immigrants from state driver's licenses, grants, public housing, and retirement benefits. Furthermore, Georgia is a relatively poor state, ranking 33 in median household income (www.census.gov/acs), making voters particularly sensitive to changes in income (Gelman et al., 2007) and perhaps less tolerant of foreigners (Malhotra, Margalit and Hyunjung Mo, 2013).

First, using survey data where respondents are primed to think about unauthorized immigrants and their use of publicly provided services, we are able to link individual fiscal conservatism directly targeted toward unauthorized immigrants to a higher county population share of unauthorized immigrants and to other individual and county level characteristics. Second, we are able to link higher population shares of unauthorized immigrants to a higher Republican vote share, at the county level, controlling for party incumbency, partisan loyalty, and other county characteristics. We are able to distinguish this impact of unauthorized immigrants from immigrants (specifically, Mexicans) generally; we find a stronger relationship in elections with a more local constituency (where voters are likely to feel the greatest fiscal impact and connectedness to the candidate); and the response is most dramatic in counties with higher median household income (i.e., among voters bearing the greatest share of fiscal responsibility for social services and, as established first, among voters who have the strongest anti-unauthorized immigrant sentiments). Specifically, we find that a one percentage point increase in unauthorized immigration corresponds with a 1.03 percentage point increase in Republican vote share in the next election. In order to establish that our results link levels of unauthorized immigrants to changes in natives' voting behavior, we offer additional analyses and reject alternative explanations such as changing migration patterns and provide evidence of much higher actual vote switching from one election to the next among Democrats than

among Republicans.

The rest of the paper proceeds as follows. Section 2 describes the data for measuring the number of unauthorized immigrants by county in Georgia. Sections 3 and 4 detail the two-pronged analysis and present results establishing the link between unauthorized immigration and fiscal conservatism (Section 3), and the link between unauthorized immigration and support for Republicans, the political party in the U.S. that is more strict regarding immigration and considered to be more fiscally conservative (Section 4). Evidence for interpreting these results as changes in voter behavior is presented in Section 5, and Section 6 offers a summary and implications for the findings in this paper. Finally, the discussion in Appendix A gives further details about the construction of the variable that measures undocumented workers as well as measurement validation.

2 Measuring Unauthorized Immigrants in Georgia

One of the primary contributions of this paper is the ability to distinguish between the presence of unauthorized immigrants and the presence of immigrants more generally. The inability of the current literature to elicit a definitive source of anti-immigrant sentiments may very well result from mixed feelings among natives regarding legal and illegal immigrants. And the confusion is exacerbated by most surveys not distinguishing between legal and illegal immigrants. This section describes the process by which we estimate the number of unauthorized immigrants at the county level in Georgia over time.

At best, current estimates of the presence of unauthorized immigrants are available only at the national or state level (Passel et al., 2014; Warren and Warren, 2013). One of our key contributions is that we use a unique method to measure the county level share of undocumented workers, which will be used as a proxy for measuring the presence of unauthorized immigrants. The primary data used to construct the measure are the Employer File and the Individual Wage File, compiled by the Georgia Department of Labor for the purposes of administering the state's Unemployment Insurance program. The Employer File provides an almost complete census of firms in Georgia, covering approximately 99.7 percent of all wage and salary workers (Committee on Ways and Means, 2004). The firm-level information includes the number of employees, and the worker file includes the worker's Social Security Number (SSN) from which we determine whether the worker is authorized to legally work or not.² It is our view that this new measure of undocumented workers (as a proxy for the unauthorized) makes an important empirical contribution to the literature because our measure is derived from actual employment records. It is therefore most appropriate

²Use of these confidential data is highly restricted.

in linking the threat effects from unauthorized immigrants, in this case flows of undocumented workers that are actually employed in the U.S. economy, with natives' voting behavior.

Details of how the SSN is used to identify undocumented workers are contained in Appendix A. The abbreviated version is that, until June 2011, there were some easily identifiable ways in which a SSN is determined to be invalid. We conclude that some of those reasons are either errors or the result of incomplete record keeping by the firm. We restrict our identification of undocumented workers to invalid SSNs that are more likely to have been generated by the worker – numbers that look valid, but are not. Workers with invalid SSNs for any other reason are not included in our count of undocumented workers; this will clearly undercount the actual number of undocumented workers. However, we can draw on a couple of sources of external data to show that our sample of undocumented workers closely represents the presence of unauthorized immigrants in the state of Georgia. For example, the rate of growth seen in both the number and percent of undocumented workers identified in Georgia matches closely the rate of growth in the Social Security Administrations (SSA) earnings suspense file (ESF). The ESF is a repository of Social Security taxes paid by employers that cannot be matched to a valid name or SSN. It is widely believed that this growth in the ESF reflects growing incidence of unauthorized work in the United States. We observe a remarkable consistency between the growth seen in workers identified as undocumented by our measure and growth in the ESF. Further details about our measurement strategy and measurement validation are available in Appendix A.

3 Unauthorized Immigration and Fiscal Conservatism

The efforts of the current literature to date has failed to establish a definitive link between inflows of immigrants and natives' feelings of growing fiscal burden. One potential reason for this is that surveys do not always distinguish between legal and illegal immigrants, and natives may feel very differently about these two types of immigrants.³ Because of the mixed results, scholars have questioned whether or not there is an actual causal link between fiscal threats and opposition to immigration in the electorate at all (Hainmueller and Hopkins, 2014). Coupled with increasing empirical evidence that supports cultural over economic factors as underlying determinants of voters' public opinions on immigration, it is perhaps easy to discount post-tax economic concerns from the onset (Hainmueller and Hiscox, 2010). However, using survey data, the results in this section show

³One exception to this is Tingley (2013) who also uses CCES data that specifies illegal immigrants, but these question asks whether or not illegals should be given amnesty and does not directly cue unlawful immigrants with concerns over fiscal spending.

a link between a greater presence of unauthorized immigrants in a survey respondent's county with stronger expressions of fiscal conservatism. We also find that this link is stronger than with other measures of typically conservative views, such as views on gun control and gay marriage, and that fiscal conservatism is positively associated with income levels. Once we have established some evidence that unauthorized immigrants exert feelings of post-tax fiscal conservativeness, the next section then examines how an increase in fiscal threats, through a greater presence of unauthorized immigrants, affects electoral outcomes across counties over time in the U.S. state of Georgia.

3.1 Data and Methodology

The Cooperative Congressional Election Study (CCES) is a nationally stratified survey administered by YouGov/Polimetrix. In 2012, the survey asked a series of questions relating to immigration. Important for our purposes, one of the questions on immigration was related directly to unauthorized (or illegal) immigrants and respondents' opinions on restricting access to emergency medical treatment and public schools. In addition to this question, the survey also asks basic demographic and socio-economic questions including where the respondent lives, their family income, their gender and education level. Matched with county level data that we collect for the partisan support analysis presented in the next section, we use this survey question to test the theory that the fiscal burden channel works through respondents' appetite to restrict unauthorized immigrants from accessing publicly funded social services. We evaluate both individual and county level factors. We then compare the model of individual and county level determinants with other CCES questions on restricting gay marriages, gun control, and restricting payments for Medicare and Medicaid in order to check that the results for the "treatment" question are significantly different than results for other questions, or "placebos."

The text of the immigration question that we use asks respondents:

What do you think the U.S. government should do about immigration?

Prohibit illegal immigrants from using emergency hospital care and public schools.

The dependent variable is coded 1 if someone answers yes and 0 if someone answers no and coding the dependent variable this way makes our findings directly comparable with previous research findings who also code the variable 1 when respondents hold more restrictive views ([Hanson, Scheve and Slaughter, 2007](#); [Tingley, 2013](#)). However, this survey is unique in that it asks directly about illegal immigrants, rather than about immigrants in general. The sample of respondents that we use reside in the state of Georgia, which allows us to match respondents with our county level data by county Federal Information Processing Standards (FIPS) code. The total number of

unique respondents in the sample is 1789. Out of this number, 1209 respondents (approximately 68 percent) report that they do not support restricting emergency hospital care and public schools. The remaining 550 respondents (approximately 32 percent), meanwhile, report that they do support restricting social services to illegal immigrants. We also suspect that Georgia voters are not unique and hold views consistent with broader opinions about immigrants and welfare spending in the U.S. electorate. For example, in the 2008 American National Election Survey (ANES), 30 percent of respondents were concerned about Latino immigrants and their use of welfare services (see Table 2 in [Tingley \(2013\)](#)).

3.2 Results

Using the answer for this question as a measure of fiscal conservatism triggered by the presence of unauthorized immigrants, we run a series of logistic regression models to test individual and county level characteristics that may help predict this effect. The results are reported in Table 1. First, we examine the effect of education on respondents' willingness to restrict services. Similar to the results in [Tingley \(2013\)](#), we find that education levels are positively associated with holding restrictive views on immigration, with the exception of high school graduates. This lends some support to the idea that those with higher skills are more likely to feel fiscally threatened by a larger presence of unauthorized workers whereas those individuals with lower education and a greater propensity to use social services are less likely to hold restrictive views. Furthermore, this finding holds whether we treat the education classification separately as a factor or if we include it as a continuous variable from low to high (not shown).

[Table 1 about here]

Another robust finding in the literature is an income effect. To get at the effects of income, we measure income according to 7 income brackets, following as closely as we can the Census definitions.⁴ Similar to previous studies, income is positively associated with an increase in the likelihood that someone will want to restrict illegal immigrants from using health services and public schools.

To test whether the desire to restrict social services is related to a greater presence of unauthorized immigrants, we include an indicator for whether the respondent's county has a number of identified unauthorized immigrants that is equal to or greater than one standard deviation above

⁴1 = 0–29,999; 2 = 30,000–49,999; 3 = 50,000–79,999; 4 = 80,000–99,999; 5 = 100,000–149,999; 6 = 150,000 – 199,999; 7 => 200,000.

the mean number of unauthorized immigrants identified in the whole state.⁵ Counties that have a population share of more than 3.03 percent ($\mu = 1.50 + \sigma = 1.53 = 3.03$) unauthorized immigrants are coded 1 and 0 otherwise. Including this variable into the model, we find that individuals living in counties with a higher number of unauthorized immigrants are more likely to want to restrict services to illegals. Importantly, income continues to be a positive and significant predictor of holding restrictive views and education also continues to be increasingly positively associated with more restrictive views, again with the exception that those with a high school degree, are less likely than those with less than a high school degree to want to restrict services to the unauthorized. These findings lend some support to the idea that fiscal burden post-tax threat effects are working on natives' opinions after being primed to think about illegal immigrants using publicly provided social services, and that the effect is stronger for natives more exposed to the presence of unauthorized immigrants.

Finally, there is also a concern that unauthorized immigrants may live in families whose members have different authorized status. For example, parents may not have proper documentation whereas their children or other family members may have proper documentation. Since up to 60 percent of Hispanics are unauthorized (Hoefer, Rytina and Baker, 2012), the variable “unauthorized” could be merely capturing a larger presence of Hispanics in a community instead of capturing the fiscal burden effects of unauthorized immigrants specifically. Furthermore, respondents may not actually distinguish between unauthorized immigrants and Hispanics (Brader et al., 2010). To account for this, we also include the county percent of Hispanics as an additional county-level variable as a regressor. As before, we find that education is positively associated with restrictive welfare spending policies and income is positively associated. When the number of unauthorized immigrants in the county is high, respondents continue to be more likely to want to restrict access to emergency health care and schools. Finally, the variable that accounts for the share of the county population that is Hispanic is negative and insignificant at traditional cut off levels, suggesting that respondents may feel differently about the presence of unauthorized immigrants, than Hispanics more generally. This result may also suggest that respondents make some distinction between unauthorized immigrants and Hispanics, which is consistent with a study by Murray and Marx (2013) in which respondents to a survey clearly differentiate between potential threats (both economic and cultural) felt by unauthorized and authorized immigrants. Greater threats were perceived from unauthorized immigrants than from authorized immigrants, and the perceptions of threat increased according to the age of the survey respondent.

⁵We take the mean number of estimated unauthorized immigrants across counties in 2010, or a lag of two years. This is analogous to the lag structure that we use in the partisan support analysis in the next section.

In order to make sure that survey respondents are responding to the priming of the survey instrument that should raise their feelings of possible fiscal threats from the unauthorized and not that we are uncovering mere correlation with other unaccounted for explanations, we run the same models as before on a number of other “placebo” questions that account for possible confounding explanations. In other words, our models may just be picking up the degree of respondent “conservatism” which is unrelated to unauthorized immigrants and conservative respondents may happen to live proximate to unauthorized immigrants. In order to make sure that respondents are in fact responding to the question linking unauthorized immigrants with costs of social services, we estimate exactly the same model but change the dependent variable to whether respondents oppose gay marriage, oppose gun control, and oppose spending on Medicaid and Medicare. These results are reported in Table 2. If our estimation related to social services is merely picking up general level conservatism, independent from the survey treatment, then we should see roughly the same direction and significance level as was seen on the Unauthorized coefficient.

[Table 2 about here]

The share of unauthorized immigrants in a respondent’s county has no significant relationship with views on these other conservative issues (the point estimates are smaller and statistically insignificant). This insignificance is notable since there are other regressors that are statistically significant. We also find that income is positively (although insignificantly) associated with other measures of “conservatism” including restrictions on gay marriage and lower restrictions on guns, though both are insignificant. Regarding views on Medicaid and Medicare, we find that income also has a positive but insignificant relationship with restricting spending, where income has a positive and significant relationship with restricting social spending for unauthorized immigrants. This suggests that wealthier people are, on average, more likely to want to restrict public spending overall (e.g., on Medicaid and Medicare), but especially for the unauthorized. It’s also of interest to note that the presence of unauthorized immigrants is substantially weaker and statistically insignificant in the Medicare/Medicaid model, yet respondents in counties with greater population shares of Hispanics are more likely to want to restrict access to Medicare and Medicaid. If we take Hispanics out of the model and just use the unauthorized immigrant share variable (not shown), we again find that the coefficient is positive but substantially weaker and statistically insignificant.

In sum, this exercise establishes micro-level empirical support for an unauthorized immigration threat effect that impacts fiscal conservatism when respondents are primed to think about the links between the unauthorized and social services. We find that survey respondents with higher incomes and who live in counties with higher numbers of unauthorized immigrants are more likely

to want to restrict access to emergency room care and public schools for unauthorized immigrants. These findings suggest that given a greater number of undocumented workers living in a county, the larger the odds of survey respondents expressing more fiscally conservative views. In the two party system in the U.S., we would then expect that survey respondents would also be more likely to vote for the fiscally conservative party and the party whose platform has stricter positions on immigration. Thus, in the next section, we test whether this link between the presence of unauthorized immigrants and fiscal conservatism might serve as a channel for increasing partisan support for Republicans over time.

4 Unauthorized Immigration and Partisan Support for the Republicans

The Republican party in the U.S. is the party that has declared more anti-immigrant, protectionist sentiments, so we would expect that any perceived threat from immigration would increase support for the Republican party. In addition, in the previous section we saw evidence that those with higher incomes express greater sentiments of fiscal conservatism, especially as it relates to social spending for unauthorized immigrants. We would, therefore, also expect a more pronounced shift toward the Republican party among higher income individuals in response to real or perceived threats from a greater presence of unauthorized immigrants. Therefore, the purpose of this section is to determine whether stronger fiscal burden sentiment that arises from a greater presence of unauthorized immigrants manifests itself through rising support for the Republican party over time. How we do this is by examining election outcomes in the state of Georgia.

4.1 Data and Methodology

The analysis of electoral outcomes is performed at the county level. An increase of support for Republicans within a county can occur for a number of reasons: (1) voters can change their partisan preference from Democrat to Republican, (2) Democrats can become less likely to vote, (3) Republicans can become more likely to vote, and (4) Democrats can move out or Republicans can move into the county. The first three sources of increasing support for Republicans results from changes in voting behavior – either voting differently or voting more or voting less. The fourth potential source does not result from changing voter behavior and can confound our interpretation; we specifically address the possibility of this confounding effect in the next section.

The dependent variable of interest, election outcome, measures the total share of Republican

votes cast relative to the total number of votes cast for either the Republicans or the Democrats. The election data are obtained from the Georgia Secretary of State website.⁶ The analysis in this paper considers Gubernatorial, U.S. Senatorial, and U.S. Congressional elections by county in the state of Georgia that took place between 1990 and 2010.

The main independent variable of interest is the population share of unauthorized immigrants. As detailed in Section 2 (and in Appendix A), we use the share of workers that is undocumented in the county as a proxy for the share of unauthorized immigrants residing in the county. In explaining electoral outcomes, we also want to account for the fact that some counties are wealthier than others, since we saw in the last section that income is positively associated with conservative views on issues. We, therefore, include median household income obtained from the U.S. Census, Small Area Income and Poverty Estimates.⁷ We also control for the racial composition of counties using data from the U.S. Census Bureau Population Estimates.⁸ Figures 1b, 1c, and 1a show the Republican vote share for Gubernatorial, Congressional, and U.S. Senatorial elections, respectively, in the state of Georgia between 1990 and 2011. While the increase in Republican vote share in Georgia over time is slight, it is observable. In addition, the dramatic growth in the share of undocumented workers in Georgia during this same time period can be seen in Figures A.1 and A.2 in the Appendix. The question is whether there is a systematic relationship between the presence of unauthorized immigrants and support for Republicans, and whether such a relationship will hold up while controlling for other characteristics of the counties at the same time.

[Figures 1a, 1b, and 1c about here]

The statistical analysis involves estimating the following linear relationship via Ordinary Least Squares (OLS):

$$\ln \frac{RepShare_{i,j,t}}{(1 - RepShare_{i,j,t})} = \beta_0 + \beta_1 PerUndoc_{i,t-2} + \beta_2' X_{i,t} + \beta_3 RepShare_{i,j-1} + \beta_4 RepIncumb_{i,j} + \epsilon_{i,j,t} \quad (1)$$

⁶www.sos.ga.gov/elections

⁷We match median household income in a given county for an election year. Each variable contains one observation for each Georgia County for each year between 1989 and 2011, with the exception of the years 1990, 1991, 1992, 1994, and 1996. For observations for each of these five missing years for each county, we impute the missing data and recover estimates of median household income; details available from the authors.

⁸ <http://www.census.gov/popest/data/historical/index.html>

RepShare is the share of the vote in county i in election j in year t that accrues to the Republicans. We perform a logistic transformation on the dependent variable so that it is no longer bound by zero and one; OLS estimation of the relationship is valid and we can recover predicted values that do not fall outside of the zero/one range (see [Baum \(2008\)](#), [Maddala \(1983\)](#)). The coefficients from this estimation are interpreted as the marginal effect of the regressor on the log-odds ratio of RepShare. However, since our interest is not on the odds of the Republicans receiving one hundred percent of the vote, which is what the log-odds tells us, we report the marginal effect of the regressors of interest on a percentage point change in RepShare (see notes to Table 3).

The regressor of interest, percent of undocumented workers (as a proxy for percent of unauthorized immigrants) in a particular county, has the potential of being endogenous to the Republican share of the vote in that county. While the potential for voting behavior of the population group of interest (unauthorized immigrants) affecting the outcome is not a concern here, as unauthorized immigrants do not vote, the data are not a panel of individual voting behavior. Consequently, we only know the share of votes going to Republicans at each election conditional on the composition of voters in the county during that election. Out-migration of voters may occur as the result of the presence of unauthorized immigrants, so that the results reflect changes in the composition of voters within the county, rather than a change in voting behavior within a county. Analysis on in- and out-migration described below addresses this specific concern. Additionally, we lag the regressor of interest, PerUndoc, to help avoid the possibility of reverse causality. We use a two-year lag in order to make the potential nearness of impact consistent across different types of elections that are held at different intervals.

Other regressors, measured in the same year as the election, $X_{i,t}$, include real median household income in the county in the election year and the share of the population that is black. $RepIncumb_{i,j}$ is a dummy variable indicating whether the incumbent for election j is a Republican. In addition, both election and county fixed effects are included to control for election specific (county invariant) and county specific (time invariant) determinants of the Republican share of the vote. We also include an election-lagged value of the dependent variable to account for potential serial correlation between election outcomes; this would also capture the average partisanship of the electorate.

If voters view a larger presence of unauthorized immigrants in their county as a potential rise in their fiscal burden and, hence, become more conservative in their voting behavior, turning them toward the Republican party (as might be expected from the results in Section 3), we would expect a positive estimate of β_1 . We also estimate equation (1) replacing PerUndoc with PerHispanic (percent Hispanic population in the county), in order to again test whether any measured response

to the presence of unauthorized immigrants might merely be reflecting a reaction to a cultural threat, rather than a fiscal burden threat, motivated by the fact that up to 60 percent of Hispanics are unauthorized (Hoefer, Rytina and Baker, 2012).

A positive coefficient on β_1 might also be reflecting an economic threat felt by voters in response to a larger share of unauthorized immigrants. For example, and although the most recent empirical evidence on this suggests otherwise (Hotchkiss, Quispe-Agnoli and Rios-Avila, 2015), voters might view a larger share of unauthorized immigrants as a threat to their jobs and/or wage growth. If voters are shifting to Republicans in response to this economic threat, we should observe a stronger reaction to the presence of unauthorized immigrants in lower-income counties where workers for whom unauthorized immigrants would be the most substitutable live. The evidence below is contrary to this prediction.

4.2 Results

Table 3 contains the results from estimating various specifications of equation 1. Equation (1) is estimated for U.S. Senatorial, Gubernatorial, and U.S. Congressional elections. The results in columns 1-3 suggest that there is a threat effect from the presence of unauthorized immigrants: as the share of unauthorized immigrants grows in a county, support for the Republicans increases. On average, a one-percentage point increase in the share of unauthorized immigrants in a county results in just over a one percentage point gain in Republican share of the vote in the next U.S. Congressional election. The average share of the Republican vote in Congressional elections varies from over 50 percent through the mid-1990s to roughly 59 percent in the 2000s. In addition, while the relationship between the percent undocumented and the Republican share of the vote is not statistically significant in the Gubernatorial and Senatorial elections, the point estimates suggest that the threat effect is stronger as it relates to Congressional candidates. This suggests that the presence of unauthorized immigrants is more salient in Congressional elections.

[Table 3 about here]

We also see in Table 3 that the Republican share of the vote is lower in counties with a greater share of black voters and with lower median household income, which is consistent with findings in Gelman et al. (2007) and elsewhere in the literature. As might also be expected, there is inter-temporal dependence in Republican vote share, evidenced by the positive and significant coefficient on the lagged dependent variable suggesting that, unsurprisingly, party identification is important. The exception is in Congressional elections, where Republican share in the previous elections appears to be negatively related to the Republican share in the current election. However,

Republican incumbency is highly positively significant in all elections for determining share of Republican votes.

[Passel, Cohn and Gonzalez-Barrera \(2013\)](#) estimate that the unauthorized population in Georgia increased from 3.1 percent in 2000 to 4.4 percent in 2010 (a 1.3 percentage point increase). Based on the estimates in Table 3, the influx of unauthorized might account for a gain of 1.35 percent of the votes going to the Republicans for the U.S. Congressional candidate over this time period (1.3 times 1.04), which is substantially significant.

We also estimate a number of variations on the model specification in equation (1) and obtain essentially the same results. Rather than use Republican share of the (majority party) votes, we also construct a supplemental conservative vote share measure, combining the Green party votes with the Democratic votes and the Libertarian votes with the Republican votes. We then run this liberal versus conservative measure and find no appreciable differences in the results. We also explore a model that includes both the current and lagged values of the undocumented worker share (essentially resulting in a growth analysis). Only the lagged value is statistically significant in this specification, suggesting that the level of undocumented workers, rather than the growth in undocumented workers, is important to voters. This finding supports evidence in [Newman and Velez \(2014\)](#) that the stock of unauthorized immigrants matters to voters, rather than the flow. Also, in addition to including a lagged value of the dependent variable, we estimate the model allowing the error term to follow an AR(1) process. Again, the results are essentially the same. In addition, we also include a measure of county population, however, the coefficient is neither substantively or statistically significant in any model specification, suggesting that the county fixed effect is picking up this and other characteristics of the county that change little over time.

The results in Table 3 indicate an increase in support for Republicans with a greater presence of unauthorized immigrants suggesting a feeling of threat by voters. The next sections focus on identifying the most likely source of this threat.

4.2.1 Unauthorized versus Hispanic

A greater presence of any immigrants, whether legal or not, is theorized to threaten fiscally provided services. In addition, since up to 60 percent of Hispanics in the U.S. are estimated to be unauthorized ([Hoefer, Rytina and Baker, 2012](#)), our measure of unauthorized may merely be picking up a cultural reaction by voters to the larger share of immigrants (specifically, Hispanics) in their county. In other words, voters may not be able to distinguish between Hispanics and the unauthorized. The fiscal burden hypothesis, and results in Section 3, however, suggests that we should see a larger reaction by voters to percent illegal immigrants than to percent Hispanic in the

county, since the unauthorized are perceived (rightly or wrongly) to be more of a local fiscal burden. In order to test whether voters' reactions identified in Table 3 are in response to a larger share of unauthorized or immigrants more generally, we re-estimate equation (1) with percent Hispanic in place of percent undocumented; the results are reported in the last three columns of Table 3.

The coefficients on percent Hispanic are positive, as well, but significantly smaller than the impact estimated from percent undocumented, and only marginally significantly different from zero in the U.S. Congressional regression. This suggests that there is a difference in threat effects between the unauthorized and Hispanics. As another robustness check (not shown here), we included both the percent undocumented and the percent Hispanic at the same time in a single regression. In these results, the percent Hispanic is never statistically significant and the percent undocumented is statistically significant at the 90 percent confidence level, with a marginal effect of 0.77, in the Congressional regression. Since these two measures are correlated with one another, it's not surprising that the inclusion of percent Hispanic reduces the power of percent undocumented, although the effect is larger and its impact significant. This offers additional evidence that voters are responding to something other than merely a cultural threat from the presence of Hispanics or a perceived fiscal burden of immigrants, generally – there is something truly unique about the presence of the unauthorized motivating voter behavior.

4.2.2 Geography of Constituents Matters

Native-born voters concerned about perceived burdens on social services (and their tax dollars) at the local level should produce a stronger effect in elections where they feel they have the greatest influence, or in elections where the victor has more local concerns and a more local presence. In fact the Congressional Budget Office (CBO 2007) documents that most of the fiscal burden of unauthorized immigrants falls on local, rather than Federal, coffers. All else equal, since U.S. Congressional representatives represent a much smaller geographic area than U.S. Senators or Governors, voters are more likely to personally know a Congressional candidate and a Congress person will be more responsive to local perceptions (see [Arnold \(1990\)](#); [Fennon \(1979\)](#)). While the lack of significance of the coefficient on PerUndoc in the Senatorial and Gubernatorial elections could simply be the result of lack of statistical power, we note the significance of other estimated regressors. Even if the estimates on PerUndoc were statistically significant, we also note that the point estimates increase substantially as the election moves from U.S. Senatorial to Gubernatorial to U.S. Congressional. The results by election type are consistent with voters feeling the local fiscal pinch from the presence of unauthorized immigrants and sending the message through their vote to that elected official most likely to hear and respond.

4.2.3 Rich versus Poor Counties

The results in Section 3 indicate that wealthier individuals are much more likely to want to restrict illegal immigrants from using public services, than less wealthy individuals. If fiscal conservatism is the likely channel through which a greater presence of the unauthorized lead to greater support for Republicans, then we should find a stronger response in wealthier counties.

In order to see if this is the case, we re-estimate equation 1 separately for poor, middle, and rich counties (counties are split into terciles adjusted for inflation). The results in Table 4 indicate that increased support for Republicans is more pronounced the wealthier a county. This suggests that more wealthy voters, who are in a higher tax bracket, will object more strongly to the perception that unauthorized immigrants are straining social safety nets. These results are consistent with Milner and Tingley (2013) who find that support for immigration policies depends on fiscal redistribution, where richer people are more likely to support immigration when welfare spending is low and less likely to support immigration when welfare spending is high. It is also important to note that this result does not depend on whether unauthorized immigrants are actually placing a heavy burden on social services, just that they are perceived to be doing so (Rothschild et al., 2013).

[Table 4 about here]

Also note that if the positive estimate of β_1 was the result of voters reacting to an economic (job loss or lower wages) threat, we would have expected to see a more dramatic reaction to the presence of unauthorized in lower-income counties. It is the lower-skilled, lower-income workers who, if at all, suffer the most from a larger presence of unauthorized immigrants who might be seen as substitute labor (Hotchkiss, Quispe-Agnoli and Rios-Avila, 2015).

We also see in Table 4 that the stronger impact of the unauthorized versus Hispanics, in general, holds across county median income levels. Also note that in Georgia median household income and the percent of the population that is Black are highly negatively correlated. We control for the population racial mix in the county in the results found in Table 4, allowing us to abstract from the racial mix of the population and focus on the effect across income (holding race constant).

4.3 Robustness Tests

As a test of sensitivity to time period or county inclusion, we undertook a number of estimations on a sub-set of counties and years. We tested only the U.S. Congressional results and Table 5 contains the results from additional regressions. While there is some variation in precision in estimation,

the positive impact of unauthorized immigrants on electoral support for the Republicans holds within each decade and among counties with larger or smaller shares of unauthorized. The lack of significance within counties with low levels of unauthorized may suggest that the impact on voters may only take hold after the share of unauthorized reaches a certain threshold. However, the marginal effect even in that sub-group is of similar magnitude to the others.

[Table 5 about here]

As another check to make sure that we are not capturing mere persistence in racial attitudes, especially racial attitudes against minorities, we rerun the analysis taking into consideration the population percent of blacks that were slaves in 1860 by county (O’Connell, 2012). Recent research shows that white voters who currently live in Southern counties that had high shares of slaves in 1860 are more likely to identify with the Republican party (Acharya, Blackwell and Sen, 2015). This finding suggests that white voters may not actually vote Republican because of contemporary racial and ethnic threat effects and that instead Republican voting in counties with higher historical levels of slavery persists across generations.

In order to assess whether our results are being driven by this potentially omitted variable, we include the population share of slaves in 1860 by county as a substitute for county-level fixed effects. Doing so produces slightly weaker although not substantially different, results. These results are shown in Table 6 alongside the results discussed in the previous sub-section. We find that the percentage of undocumented workers in a county continues to positively predict Republican vote share, in spite of that county’s history with slavery. Similarly, we also find that a Republican incumbent is positively associated with voting Republican in the next election and that the percent of the population that is black is negatively associated with gains for the Republican party.

[Table 6 about here]

Furthermore, there is very little correlation between the number of slaves and contemporary county median household income, strengthening our argument that it is income rather than historical minority sentiment that matters. The correlation between the number of slaves in a county in 1860 and current county level median income is -0.10, which suggests that income is not simply a proxy for racial discrimination. In addition, the correlation between the number of slaves and the county fixed effect coefficient in the percent undocumented regression is -0.50. This suggests that the higher the historic share of slaves in a county, the lower is the baseline county share of undocumented workers. This finding is not unexpected as the current share of blacks in a county is negatively correlated with the current share of Hispanics in the county. Finally, the correlation between the number of slaves in 1860 and the percent of the county population that is black is 0.60.

5 Changes in Voting Behavior?

The estimation in this paper is performed on county level vote share data. We do not observe individual voting behavior that would allow us to conclude unequivocally that voters change their party vote from one election to another. However, we undertake two additional analyses that allow us to be confident that the results reported so far result from changing voter behavior, rather than from some underlying composition or aggregation effect.

5.1 In-and Out-Migration

We find that as the share of undocumented workers in a county increases, the share of votes going to the Republican candidate in an election also increases. An alternative explanation to changing voter behavior is that, faced with an increase in the number of unauthorized immigrants, Democrats move out of the county. If Democratic voters experience greater economic threats than Republican voters (through job threats for example), then Democrats might flee areas with growing numbers of undocumented workers and that is why we see higher Republican support in counties with higher shares of undocumented workers.

Since we do not have individual voting data, the best we can do to distinguish between possible alternative explanations is to investigate migration patterns. In order to do so, we make use of the Internal Revenue Service (IRS) county-to-county Migration Data. These data contain residential location information for 95 to 98 percent of the individual income tax filing population. For each county in Georgia, for each year, we know the number of people who moved into the county (inflow), the number of people who moved out of the county (outflow), and the number of people who remained in the county (non-movers). Data are available from 2005 through to 2010.

We are interested in whether the outflow in one year is significantly related to the share of undocumented workers in the previous year. It is also feasible that owners of capital (likely to be Republicans) move to counties with higher numbers of undocumented workers as they offer a new source of inexpensive labor. Because of this, we also consider inflow migration.

If migration patterns are the mechanism at work behind the parameter estimates in Table 3, then we should observe a positive correlation between the share of undocumented workers in the previous year and the county's outflow percentage. Additionally, if owners of capital (Republicans) are moving into counties with higher shares of undocumented workers to take advantage of economic opportunities, then we should observe a positive correlation between the share of undocumented workers and the inflow percentage.

Table 7 presents results from a logistic regression which allows us to control for other county

characteristics and county and year fixed effects, in addition to the previous year's percent of unauthorized immigrants (again, proxied for by undocumented workers). The coefficient on lagged undocumented workers is positive in the outflow equation and negative in the inflow equation, but neither is even close to being statistically significantly different from zero. These results suggest that as the share of undocumented workers increases, increased support for Republicans is not, at least primarily, being driven by migration patterns. We do note however, that there are other statistically significant relationships that appear in this estimation exercise. In-migration is lower to counties with a high share of Blacks and higher in counties with a lower share of the vote going to Republicans in the previous election. This second results may be picking up growth in urban counties, which are less likely to vote Republican.

[Table 7 about here]

5.2 Ecological Inference

One potential problem with making inferences about changing voter behavior from the results reported here is that the analysis relies on aggregate data and therefore cannot tell us about actual voter behavior (King, 1997). One strategy to overcome this shortcoming is to compute the voter transition probabilities using ecological inference. The goal of ecological inference is to be able to infer group specific behavior, such as Republican and Democratic voter behavior, from aggregated elections outcomes. In order to do this, we take counties as the units, the vote share by parties in an early election as the group variable of interest, and the vote share accrued by the parties in the subsequent election.

We use ecological inference in order to get an aggregate estimate of partisan voter transition probabilities between 2004 and 2006. We choose to examine the 2004 to 2006 elections for two reasons. First, as we discussed, immigration is a salient topic in Georgia and especially in the 2006 election; therefore we suspect that the native voting population was more likely to have information, worries, and concerns about illegal immigration and the potential (perceived or actual) threat effects of unauthorized immigrants on the native born voting population between these elections. Second, because of redistricting, elections before, as well as elections after 2006, do not always have the same electoral boundaries and therefore do not have stable voting populations. By examining voter transitions between elections where the district lines are the same, we can be more confident the voting population is stable between elections than if we use elections between periods where there is redistricting (of course voters that move between elections are not accounted for, however, we have accounted for them in the in- and out-migration analysis discussed above).

One significant problem with using the 2004 election, however, is that there are several uncontested elections: 6 out of 13 districts are uncontested. This makes the uncertainty in our inferences on the estimated transition probabilities for districts without a challenger either extremely large or alternatively, extremely small if the same party stays in power across elections. We use data for Georgia U.S. Congressional elections. In order to calculate the aggregate voter transitional probabilities from 2004 to 2006, we use Bayesian Multinomial Dirichlet estimation for ecological inference (see [Lau, Moore and Kellermann \(2007\)](#); [Moore \(2007\)](#)).

The model is set up as follows. Imagine a transition matrix where the rows reflect the parties in the 2004 elections (Democrat or Republican) and the columns reflect the parties in the 2006 elections (also Democrat or Republican). T_{rc} corresponds to the share of voters who transition from the party in row r in 2004 to the party in row c in 2006. “Transition” here is broadly defined to included within party “transitions.” Define X_{ri} as the proportion of individuals, in county i , that voted for the party in row r in 2004, and T_{ci} as the proportion of individuals, in county i , that voted for the party in column c in 2006. Then, the internal cells, represented by β_{rci} , is the proportion of row r individuals in column c . If we then define the population cell fractions β_{rc} such that the sum of $\beta_{rc} = 1$ for every r , such that the probability for voting for both parties is equaled to one-hundred percent, we can then estimate $\beta_{rc} = \beta_{rci}$ for all counties i . Estimating the population parameters β_{rc} can then be done using standard linear regression assumptions via OLS:

$$T_{ci} = \beta_{rc}X_{ri} + \epsilon_{ci} \quad (2)$$

The parameter estimates that we are interested in are the estimated proportions of people in 2004 that voted Democrat who, in 2006, switched to the Republican, and vice versa. These are the off-diagonal cells in a 2×2 voting transition matrix shown in [Table 8](#).

[[Table 8](#) about here]

We run the ecological inference model which estimates the population proportion of voter transition. After tuning and burning in the Markov chain, we take 100,000 draws from the posterior, saving every 10^{th} draw. The distribution on the left-hand side in [Figure 2](#) shows the density of the estimated voter transition probabilities, with counties switching from voting Republican in 2004 to voting Democrat in 2006 (red). The mean estimate of Republicans vote switching to Democrats is 0.41. The distribution on the right-hand side in [Figure 2](#) shows the density of the estimated voter transition probabilities from voting Democrat in 2004 to voting Republican in 2006 (blue). The mean estimate of Democrats switching to the Republicans is 0.48. As we can see from these two distributions, Democrats are estimated to be more likely to vote switch across elections than

Republicans ($0.48 > 0.41$), although there is significant partisan loyalty across both parties, as both parties have a higher estimate of staying (> 0.50).

[Figure 2 about here]

We run a similar model as before only this time accounting for important covariates that may explain switching (or staying) including county median income, percent of the county that is black, percent of the county that is Hispanic, and percent of the county that is unauthorized. These results are seen in Figure 3. As before, after tuning and burning in the Markov chain, we take 100,000 draws from the posterior, saving every 10^{th} draw. The average estimates are nearly identical, with Democrats having a significantly higher estimated probability of vote switching ($0.48 > 0.41$). The additional information supplied by the covariates, however, helps inform the distribution by lowering the variance of the population parameter estimates.

[Figure 3 about here]

6 Conclusion

Because of a lack of data, no empirical study has been able to examine the influence of unauthorized immigration on partisan outcomes in the United States over time. By using estimates of the number of unauthorized immigrants in counties across the state of Georgia, we find a significant positive relationship between larger shares of undocumented workers and support for Republicans. We entertain several potential explanations for this relationship and find that concerns about the cost (or perceived costs) unauthorized immigrants place on the social safety net are most likely to be driving the results. We appeal to survey level data suggesting that natives are more likely to respond to higher levels of illegal immigrants by becoming more fiscally conservative as evidence in support of this relationship. In addition, richer counties instead of poorer counties are more likely to feel threatened by the unauthorized, which adds additional credence to fiscal conservatism as the channel through which greater shares of the unauthorized increase support for Republicans.

We also provide evidence that the results are not being driven by composition bias of voters in the county, as the presence of undocumented workers is not statistically related to migration patterns. Finally, using ecological inference analysis we also show that the results are robust to considerations of voter transition probabilities.

Our research design has a number of important features that previous studies are unable to exploit. First, we are able to make use of a unique survey design that allows us to link fiscal

conservatism directly targeted toward illegal immigrants, rather than toward immigrants in general, to a greater presence of unauthorized immigrants. Second, by examining county elections within a state, we are able to control for many of the institutional features that make cross-country or cross-state comparisons difficult. Third, we know from previous work that the link between individual income and voting is particularly strong in the South ([Gelman et al., 2007](#)) and so an analysis using Georgia data is particularly well suited. Fourth, because we are examining the effects of a non-voting population, we need not be concerned about the behavior of the population of interest confounding the results. Finally, by exploiting a long time series instead of examining only a snapshot of the immigration sentiments of individuals in an experimental setting or in a one-shot opinion survey, we can make inferences about the political implications of immigration patterns over time.

Previously, the lack of reliable data measuring the change in unauthorized immigrants made time series analysis difficult. Using a unique dataset that identifies undocumented workers in counties in Georgia, we are able to systematically measure the threat effects of unauthorized immigration over time. That being said, our empirical analysis has some important limitations. Most notably, since we do not have individuals votes, we cannot be sure that the behavior change we have identified derives from voters changing their party affiliation, or whether they are changing their voting intensity. However, we believe that we've empirically established a significant systematic relationship between changes in immigration patterns and election outcomes.

As far as implications of the results in this paper beyond the borders of Georgia, given Georgia's prominence and similarity to other states in the U.S. South, our results should be generalizable to other states with similar dynamics. Our main finding is that the higher the shares of unauthorized immigrants and the higher the median household income, the more likely we would see greater increase in support for Republicans. Of course, unauthorized immigration is only one issue voters consider when heading to the polls. If other issues loom larger for voters, the impact of unauthorized immigration on electoral outcomes may be diluted. However, with an announcement from the U.S. Executive Branch on November 20, 2014, that the administration will be taking several steps to defer deportation for many unauthorized immigrants, the issue of unauthorized immigration is likely to remain at the forefront of the political debate in the U.S. Furthermore, our findings suggest that there may be a growing tension in many countries that have aging populations. On the one hand, countries with aging populations may need to increase immigration to sustain generous welfare spending such as health and retirement benefits to natives. On the other hand, natives, and especially wealthy voters, may react to an influx of immigrants, especially unauthorized immigrants, with higher appetites for protectionism.

Table 1: Logistic Regression: Desire to Restrict Access to Social Services

	<i>Dependent variable:</i>			
	Restrict access to emergency hospital care and public schools			
	(1)	(2)	(3)	(4)
Male	0.200* (0.104)	0.154 (0.111)	0.157 (0.111)	0.159 (0.111)
High School	-0.162 (0.123)	-0.232* (0.133)	-0.236* (0.133)	-0.232* (0.133)
Some College	0.213 (0.131)	0.283** (0.139)	0.268* (0.140)	0.260* (0.140)
College	0.236 (0.336)	0.312 (0.359)	0.317 (0.359)	0.299 (0.359)
Income		0.074*** (0.026)	0.073*** (0.026)	0.074*** (0.026)
Unauthorized >3%			0.783* (0.454)	0.801* (0.455)
Percent Hispanic				-0.011 (0.010)
Constant	-0.885*** (0.098)	-1.197*** (0.147)	-1.202*** (0.147)	-1.105*** (0.169)
Observations	1,759	1,576	1,576	1,576
Log Likelihood	-1,086.956	-956.889	-955.438	-954.780
Akaike Inf. Crit.	2,183.911	1,925.778	1,924.877	1,925.559

Note: Logistic Regression

*p<0.1; **p<0.05; ***p<0.01

Table 2: Logistic Regression: Treatment versus Placebo Effects

	<i>Dependent variable = Opposed to:</i>			
	Social Services for Illegals	Gay Marriage	Gun Control	Spending on Medicaid and Medicare
	(1)	(2)	(3)	(4)
Male	0.159 (0.111)	1.062*** (0.148)	0.436*** (0.103)	0.649*** (0.130)
High School	−0.232* (0.133)	−0.344** (0.166)	−0.292** (0.121)	0.431*** (0.149)
Some College	0.260* (0.140)	−0.346* (0.187)	0.162 (0.133)	−0.142 (0.180)
College	0.299 (0.359)	−0.440 (0.504)	0.401 (0.352)	−0.121 (0.466)
Income	0.074*** (0.026)	0.010 (0.033)	0.034 (0.024)	0.017 (0.030)
Unauthorized >3%	0.801* (0.455)	0.086 (0.643)	0.708 (0.494)	0.031 (0.576)
Percent Hispanic	−0.011 (0.010)	−0.001 (0.012)	−0.005 (0.009)	0.024** (0.011)
Constant	−1.105*** (0.169)	−2.096*** (0.222)	−0.105 (0.154)	−2.126*** (0.206)
Observations	1,576	1,573	1,567	1,541
Log Likelihood	−954.780	−646.887	−1,065.494	−749.069
Akaike Inf. Crit.	1,925.559	1,309.773	2,146.989	1,514.139

Note: Logistic Regression

*p<0.1; **p<0.05; ***p<0.01

Table 3: OLS regressions by type of election; dep. var. is the logistic transformation of the share of vote going to Democrat candidate.

Variable	Percent Undocumented as Regressor of Interest			Percent Hispanic as Regressor of Interest		
	Senatorial	Gubernatorial	Congressional	Senatorial	Gubernatorial	Congressional
<i>PercentUndoc_{t-2}</i>	1.856 -1.38 [0.414]	2.362 -1.46 [0.534]	4.646*** -1.757 [1.038]	—	—	—
<i>PercentHispt_{t-2}</i>	—	—	—	0.117 -0.499 [0.026]	0.937 -0.659 [0.211]	1.840* -0.992 [0.405]
<i>RealMHI_t(\$0)</i>	0.375 -0.307 [0.084]	1.664*** -0.455 [0.376]	0.358 -0.985 [0.080]	0.372 -0.314 [0.083]	1.840*** -0.462 [0.415]	0.548 -1.01 [0.121]
<i>PercentBlack_t</i>	-1.699*** -0.354 [-0.379]	-2.313*** -0.449 [-0.523]	-3.175*** -0.804 [-0.709]	-1.698*** -0.353 [-0.379]	-2.295*** -0.465 [-0.517]	-3.209*** -0.828 [-0.706]
<i>RepShare_{j-1}</i>	2.288*** -0.174 [0.510]	0.597** -0.242 [0.135]	-0.287*** -0.098 [-0.064]	2.306*** -0.179 [0.514]	0.594** -0.248 [0.134]	-0.291*** -0.098 [-0.064]
<i>RepIncumb_{i,j} = 0, 1</i>	0.568*** -0.025 [0.127]	0.112*** -0.032 [0.025]	0.412*** -0.038 [0.092]	0.572*** -0.026 [0.128]	0.108*** -0.031 [0.024]	0.409*** -0.038 [0.090]
Constant	-0.935*** -0.21	-0.067 -0.278	0.266 -0.58	-0.935*** -0.206	-0.158 -0.273	0.19 -0.59
Observations	954	795	1440	954	795	1440
Within R^2	0.827	0.732	0.262	0.826	0.745	0.262

Note: Dependent variable is the logistic transformation of the share of vote in each election going to the Democratic candidate. Estimation also includes election and county fixed effects. Robust standard errors in parentheses, marginal effects in brackets. * * * $p < 0.01$, * * $p < 0.05$, * $p < 0.1$. Percentage variables range between zero and one. An alternative specification excludes the lagged dependent variable and allows the error term to follow an AR(1) process; the results are essentially the same. Total number of unique counties is 159. The marginal effect for county i for a change in regressor k are calculated as follows:

$$\frac{\delta DemShare_i}{\delta X_k} = (-\hat{\beta}_k) \frac{e^{\hat{B}\Omega_i}}{[1 + e^{-(\hat{B}\Omega)}]^2}$$

where $\hat{B}\Omega_i$ is the linear prediction for county i from the OLS estimation of the logistic transformation.

Table 4: OLS regressions; coefficients on Percent Undocumented and Percent Hispanic by county median household income terciles (inflation-adjusted values).

Variable	Low Income $\leq \$37,000$	Middle Income $> \$37,000 \leq \$44,000$	High Income $> \$44,000$
<i>PercentUndoc_{t-2}</i>	3.65* -1.38 [0.414]	6.397** -1.46 [0.534]	18.489* -1.757 [1.030]
<i>PercentHispt_{t-2}</i>	0.604 -1.028 [0.145]	2.911** -1.127 [0.620]	3.918** -0.389 [0.837]
Observations	527	443	470

Note: Dependent variable is the logistic transformation of the share of vote in Congressional elections going to the Democratic candidate. See notes to Table 2. Other regressors include median household income in county; percent of county population that is black; lagged dependent variable; an indicator for Democrat incumbent; and county and election fixed effects.

Table 5: OLS regressions; coefficients on Percent Undocumented for different sub-groups of data, U.S. Congressional elections.

Sub-group	Coefficient on <i>PercentUndoc_{t-2}</i>	Number of Observations
Full Sample	4.646*** -1.757 [1.038]	1,440
Years 1990-1998	4.764*** -1.381 [1.033]	590
Years 2000-2010	7.330** -3.599 [1.649]	850
Counties with less than the median percent undocumented (median=0.51%)	5.974 -7.986 [1.383]	668
Counties with more than the median percent undocumented (median=0.51%)	5.746*** -1.671 [1.311]	772

Note: Dependent variable is the logistic transformation of the share of vote in Congressional elections going to the Republican candidate. See notes to Table 3. Other regressors include median household income in county; percent of county population that is black; lagged dependent variable; an indicator for Republican incumbent; and county and election fixed effects.

Table 6: OLS regressions; replacing county fixed effect with county population slave percent in 1860, U.S. Congressional elections.

Variable	Results with county F.E. (see Table 3)		Replacing county F.E. with population percent slave	
<i>PercentUndoc_{t-2}</i>	4.646*** -1.757 [1.038]	—	3.425** -1.511 [0.802]	—
<i>PercentHispt_{t-2}</i>	—	1.840* -0.992 [0.405]	—	0.697 -0.546 [0.163]
<i>RealMHI_t</i> (\$0)	0.358 -0.985 [0.080]	0.548 -1.01 [0.121]	0.396 -0.253 [0.088]	0.325 -0.249 [0.076]
<i>PercentBlack_t</i>	-3.175*** -0.804 [-0.709]	-3.209*** -0.828 [-0.706]	-1.511*** -0.216 [0.354]	-1.542*** -0.214 [-0.361]
<i>RepShare_{j-1}</i>	-0.287*** -0.098 [-0.064]	-0.291*** -0.098 [-0.064]	0.188* -0.111 [0.044]	0.193* -0.112 [0.045]
<i>RepIncumb_{i,j}</i> = 0, 1	0.412*** -0.038 [0.092]	0.409*** -0.038 [0.090]	0.396*** -0.037 [0.093]	0.396*** -0.037 [0.093]
<i>Pslave</i>	—	—	0.204 -0.1267 [0.048]	0.209 -0.129 [0.049]
Constant	0.266 -0.58	0.19 -0.59	-0.434*** -0.155	-0.407*** -0.153
Observations	1440	1440	1440	1440
Within R^2	0.262	0.262	0.243	0.242

Note: Dependent variable is the logistic transformation of the share of vote in Congressional elections going to the Republican candidate. See notes to Table 3.

Table 7: OLS regressions of county emigration and immigration, 2005-2010.

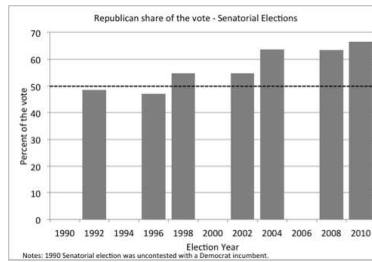
Dependent Variable	Out-migration	In-migration
<i>PercentUndoc_{t-1}</i>	0.626 -1.0091 [0.0408]	-0.3372 -1.2413 [-0.0246]
<i>RealMHI_t</i>	0.3915* -0.2069 [0.0255]	0.3405 -0.3261 [0.0248]
<i>PercentBlack_t</i>	-1.0757* -0.6253 [-0.0701]	-2.9224*** -0.9524 [-0.2128]
<i>Dependent Variable_{t-1}</i>	-2.7607** -0.8702 [-0.1800]	1.447 -0.9404 [0.1054]
<i>Percent of vote going to Republicans in most recent Congressional election_{t-1}</i>	-0.0241 -0.0209 [0.0016]	0.1493*** -0.0306 [0.0109]
Constant	-2.2440*** -0.2309	-1.8276*** -0.3419
Observations	795	795
Within R^2	0.132	0.357

Note: Dependent variable is the logistic transformation of the percent of the county's population that either out- or in-migrated in a given year. Estimation also includes year and county fixed effects. Standard errors in parentheses, marginal effects in brackets. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Total number of unique counties is 159. Robust standard errors are estimated to correct for heteroskedasticity.

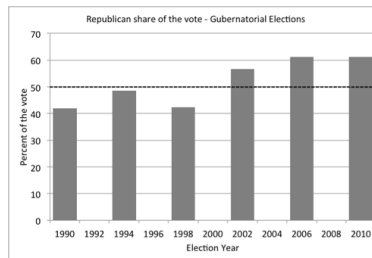
Table 8: 2×2 Ecological Inference Estimation for Voter Transitions Across Elections

	Democrat 2006	Republican 2006
Democrat 2004	β_{11}	β_{12}
Republican 2004	β_{21}	β_{22}

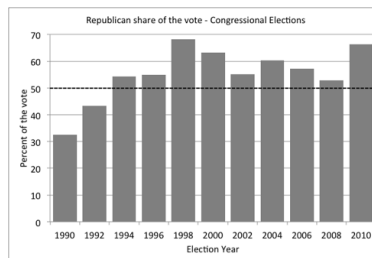
Figure 1: The Republican Vote Share in Gubernatorial, Congressional, and U.S. Senatorial Elections in Georgia between 1990 and 2011.



(a) U.S. Senatorial



(b) Gubernatorial



(c) U.S. Congressional

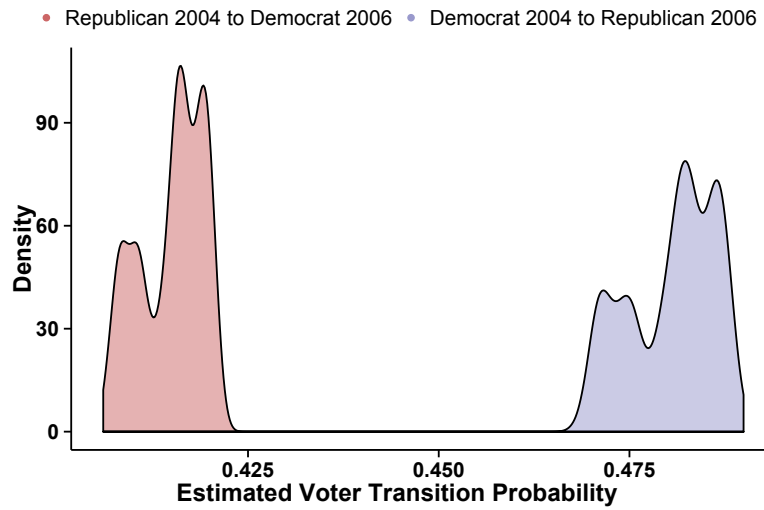


Figure 2: Estimated voter transition probabilities by political party. Republican voters in 2004 that voted Democrat in 2006 on the left and Democratic voters in 2004 that voted Republican in 2006 on the right.

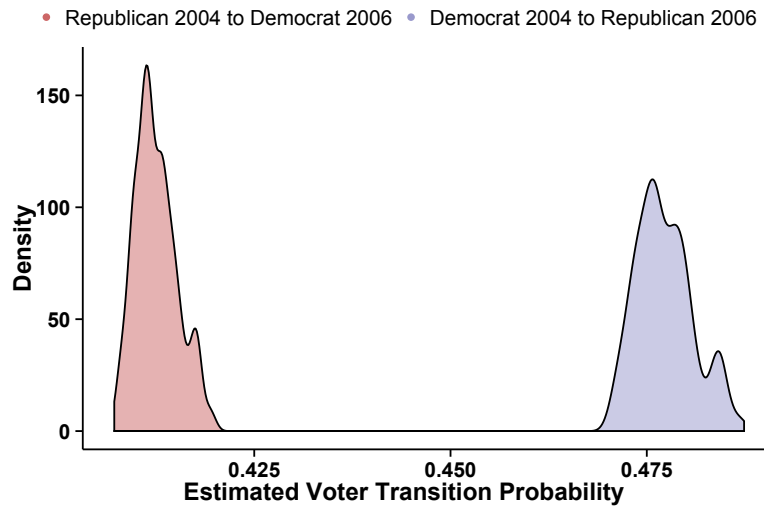


Figure 3: Estimated voter transition probabilities by political party with covariates. Republican voters in 2004 that voted Democrat in 2006 on the left and Democratic voters in 2004 that voted Republican in 2006 on the right.

A Details for Identifying Undocumented Workers in Georgia

Every quarter, employers file a report with the state Department of Labor detailing all wages paid to workers who are covered under the Social Security Act of 1935. Each worker on this report is identified by his/her social security number (SSN). There are several known characteristics of a valid social security number, so we check whether each number conforms to these characteristics.

⁹ The first three numbers of the SSN are the Area Number. This number is assigned based on the state where the SSN application was made. The lowest Area Number is 001 and the highest Area Number ever issued, as of December 2006, is 772. Using information provided by the SSA, we can determine the dates at which area numbers between 691 and 772 are first assigned. Any SSN with an Area Number equal to 000, greater than 772, or which shows up before the officially assigned date, is considered invalid. The second piece of a SSN consists of the two-digit Group Number. The lowest group number is 01, and they are assigned in non-consecutive order. Any SSN with a Group Number equal to 00 or with a Group Number that appears in the data out of sequence with the Area Number is considered invalid. The last four digits of a SSN are referred to as the Serial Number. These are assigned consecutively from 0001 to 9999. Any SSN with a Serial Number equal to 0000 is invalid.

In 1996 the Internal Revenue Service (IRS) introduced the Individual Tax Identification Number (ITIN) to allow individuals who had income from the U.S. to file a tax return (the first ITIN was issued in 1997). It is simply “tax processing number,” and does not authorize an individual to work in the U.S. Employers are instructed by the IRS to “not accept an ITIN in place of a SSN for employee identification for work.” An ITIN is only available to resident and nonresident aliens who are not eligible for U.S. employment and need identification for tax purposes. ITIN numbers have a “9” in the first digit of the Area Number and a “7” or “8” in the first digit of the Group Number. Anyone with this numbering scheme we identify as having an invalid Area Number. Interestingly, the percent of SSNs with high area numbers that also match the ITIN numbering scheme has risen from about one percent in 1997 to over 60 percent by the end of 2006.

A series of SSNs were de-commissioned by the Social Security Administration because they had been put on fake Social Security Cards used as props to sell wallets. Apparently, some people who purchased the wallets thought the fake Social Security Cards were real and started using them as their own. If any of these 21 “pocketbook” SSNs appear in the data, they are considered invalid, although their frequency is so low as to be inconsequential. In addition, a number of SSNs are

⁹Starting in June 2011, the Social Security Administration began constructing SSNs in a random fashion, so this identification of whether a SSN is valid or not is no longer possible.

exactly equal to the employer identification number. These are invalid, primarily because they have too few digits. In any instance where a SSN is used for more than one person on a firm's UI wage report or does not have the required number of digits (including zeros), the SSN is marked invalid.

The possibility that someone fraudulently uses a valid SSN assigned to someone else poses a special problem. First of all, the SSN will show up multiple times across firms in one quarter for workers with different surnames (the wage report includes the first three characters of the workers' surnames). With this information alone, it is not possible to know which worker is using the SSN fraudulently and who the valid owner of the number is. If one of the SSN/surname pairs shows up in the data initially in a quarter by itself, this is the pair that is considered valid and all other duplicates (with different surnames) are marked invalid.

This measurement strategy clearly undercounts the actual number of undocumented workers in Georgia, but we can draw on a couple of sources of external data to show that our sample of undocumented workers closely represents the presence of unauthorized immigrants in the state of Georgia. First of all, the rate of growth seen in both the number and percent of undocumented workers identified in Georgia matches closely the rate of growth in the Social Security Administrations (SSA) earnings suspense file (ESF). The ESF is a repository of Social Security taxes paid by employers that cannot be matched to a valid name or SSN. It is widely believed that this growth in the ESF reflects growing incidence of unauthorized work in the United States (Bovbjerg, 2006). Figures [A.1](#) and [A.2](#) plots the number of workers, and the percent of workers, respectively, identified as undocumented along with the size of the ESF (we plot numbers only through 2006, since that is the last year for which the ESF data are available). This figure shows a remarkable consistency between the growth seen in workers identified as undocumented and the ESF.

As mentioned in the text, data suggest that between 40 and 60 percent of Mexicans in the United States are undocumented, and that 61 percent of unauthorized immigrants come from Mexico. Clearly not all Hispanics are undocumented, or vice versa; however, using weighted data from the Current Population Survey (CPS), we calculate the average annual growth in total workers and total number of foreign-born, Hispanic workers in the United States and in Georgia to compare growth rates to those in our sample in order to provide a second validity test for our measure of the presence of unauthorized immigrants in Georgia. These results are reported in Table [A.1](#). The work force in GA grew faster over the period than the U.S. work force (2.9 vs. 1.5 percent, respectively). In addition, the number of foreign-born, Hispanic workers in the United States grew faster (8 percent per year) than the overall work force; other researchers have also documented this phenomenon (see [Passel and Cohn \(2009\)](#)). But most importantly for our purposes is that the growth rate of

foreign-born, Hispanic workers in Georgia (roughly 27 percent per year), which is much larger than in the United States overall (also see [Passel and Cohn \(2009\)](#)), is similar to the growth in the number of workers in Georgia we classify with our measurement strategy as undocumented. We also observe a similarly large growth rate in the number of foreign-born, Hispanic workers with less than a high school degree (21 percent), among which we might expect a larger share of undocumented workers than among foreign-born, Hispanics in general.

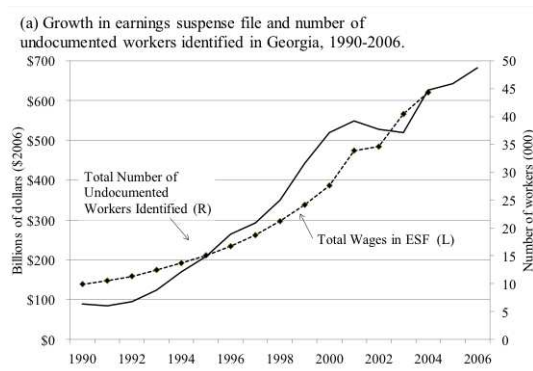


Figure A.1: Growth in the earnings suspense file and the total number and percent of workers identified as undocumented in Georgia, 1990 to 2006.



Figure A.2: Source: [Huse \(2002\)](#) for estimates 1990-2000, [Johnson \(2007\)](#) for estimates 2001-2004, and authors' calculations. Dollar estimates reflect 2006 values, using the PCE chain-weighted deflator.

Table A.1: Average annual growth, 1994-2008, in U.S. and GA employment, Hispanic workers, and workers identified as undocumented.

	Average Annual Growth Rate of:
Total number of workers in the U.S	1.43%
Total number of foreign born, Hispanic workers in the U.S.	7.26%
Total number of workers in Georgia	2.82%
Total number of foreign born, Hispanic workers in Georgia	20.74%
Total number of workers in GA identified as undocumented	29.65%

Note: Average annual growth, 1994-2008, in U.S. and GA employment, Hispanic workers, and workers identified as undocumented. Current Population Survey, Basic Survey (March), 1994-2008; and authors' calculations. 1994 is used as the base year since it is the first year the Current Population Survey has a reliable indicator of Hispanic ethnicity.

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